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REMARKS

The applicants acknowledge and appreciate receiving an initialed copy of the first form PTO-1449, which was filed on 18 June 2003. However, a supplemental IDS was subsequently filed on 6 October 2003 along with the second form PTO-1449. The applicants did not receive an initialed copy of the second form PTO-1449 that accompanied the IDS of 6 October 2003. Therefore, the applicants respectfully request an initialed copy of that form. The applicants will furnish another copy of the second form PTO-1449 upon request.

Claims 2-7, 12, 13, 15, 19 and 20 are pending. Claims 1, 8-11, 14, and 16-18 have been canceled. Claim 20 is new. The applicants respectfully request reconsideration and allowance of this application in view of the above amendments and the following remarks.

Rejections Based on Section 102

Claims 1-7 and 12, 13, 15 and 19 were rejected under 35 USC 102(b) as being anticipated by the patent to Beauseigneur *et al.* Claim 1 has been canceled and thus will not be discussed. The applicants respectfully request withdrawal of the rejection of claim 4 and its dependents and claim 19 for the following reasons.

The patent to Beauseigneur *et al.* discloses a porous catalyst support for use in a catalytic converter for treating exhaust gas. The patent to Beauseigneur *et al.* discloses colloidal particles, which are to be applied to a ceramic substrate. The colloidal particles are bonded to a metal catalyst. The colloidal particles of the Beauseigneur *et al.* patent are part of a washcoat layer for increasing the surface area of the support. Beauseigneur *et al.* state the following at column 3, lines 41-45:

"The invention overcomes the foregoing problems by
providing a catalyst device comprising a novel porous catalyst

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support with a multichannel, e.g., honeycomb, substrate, and by providing a novel method of making such catalyst support by washcoating such substrate."

The catalyst body of the present invention is significantly different from that of Beauseigneur *et al.*, since the claimed catalyst body does not have a coating layer such as a washcoat.

Further, in the method of Beauseigneur *et al.*, it is specifically intended that the washcoat particles do not fill any pores in the walls to prevent an undesirable decrease in thermal shock resistance. See lines 65-67 of col. 17. Amended claim 4 and claim 19 now recite that at least part of the catalyst component is loaded into the pores. Therefore, claim 4 and claim 19 cannot be anticipated by the patent to Beauseigneur *et al.*

It is disclosed at column 6, lines 29 and 30, that the colloidal particles have an average diameter in an approximate range of 1 to 100 nanometers. However, Beauseigneur *et al.* do not disclose catalyst particles having a mean size of less than 100 nanometers, as claimed in claim 4. The colloidal particles of the Beauseigneur *et al.* patent are not catalyst particles. The colloidal particles are essentially oxide particles in which a catalyst is dispersed. The colloidal particles of the Beauseigneur *et al.* patent are part of a washcoat layer for increasing the surface area of the support. Therefore, the catalyst is not loaded "directly" onto a base ceramic surface, as claimed in claim 4 and claim 19. Therefore, the applicants respectfully request that this rejection be withdrawn.

Claims 2, 3, 5-7, 12, 13, and 15 depend on claim 4 and are thus considered to be patentable over the patent to Beauseigneur *et al.* for the reasons for patentability given with respect to claim 4.

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Claims 1, 2, 12, and 13 were rejected under 35 USC 102(b) as being anticipated by the patent to Komatsu *et al.* Claim 1 has been canceled and thus will not be discussed. Claims 2, 12, and 13 now depend on claim 4. As for claims 2, 12, and 13, the applicants request withdrawal of this rejection for the reasons set forth below.

The patent to Komatsu *et al.* discloses the use of ultrafine metal particles from 1 to 10nm. However, the patent to Komatsu *et al.* fails to disclose a ceramic support having a large number of pores that enable particles of the catalyst to be loaded directly onto a base ceramic surface of the ceramic support, as claimed. The ultrafine metal particles of the Komatsu *et al.* patent are not held in pores of ceramic material, as claimed. Figure 1 of the Komatsu *et al.* patent shows that the ultrafine particles are simply attached to a larger particle and are not loaded into pores. Further, the Komatsu *et al.* patent fails to disclose cracks having a width of 100nm or less, as recited in claim 4. Therefore, the Komatsu *et al.* patent cannot anticipate claims 2, 12, and 13, and the applicants respectfully request that this rejection be withdrawn.

Rejections Based on Section 103

The claimed invention provides a ceramic catalyst body in which catalyst particles of 100nm or less are tightly held in the microscopic pores. This is highly effective in preventing the movement and aggregation of the particles due to thermal vibration and the like. Further by highly dispersing the microscopic catalyst particles, catalyst performance improves. Accordingly, heat resistance is significantly improved. Therefore, the claimed features provide significant advantages and would not have been obvious.

Claims 1-7 and 12, 13, 15 and 19 were rejected under 35 USC 103(a) as being unpatentable over the patent to Beauseigneur *et al.* Claim 1 has been canceled and thus will not

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be discussed. As for claim 4 and its dependents and claim 19, the applicants respectfully request withdrawal of this rejection for the following reasons.

In the patent to Beauseigneur *et al.* there is no suggestion or disclosure of pores that are 100 nm or less in width. In addition, as mentioned above with respect to the section 102 rejection, there is no disclosure or suggestion that at least part of the catalyst is held in pores in the patent to Beauseigneur *et al.* Therefore, claim 4 and its dependents and claim 19 cannot be rendered obvious by the patent to Beauseigneur *et al.*

Claims 1, 2, 12, and 13 were rejected under 35 USC 103(a) as being unpatentable over the patent to Komatsu *et al.* The applicants request withdrawal of this rejection for the reasons set forth below.

Claim 1 has been canceled and thus will not be discussed. Claims 2, 12, and 13 now depend on claim 4.

As for claims 2, 12, and 13, the patent to Komatsu *et al.* discloses the use of ultrafine metal particles from 1 to 10nm. However, the patent to Komatsu *et al.* fails to disclose or suggest a ceramic support having a large number of pores that enable particles of the catalyst to be loaded directly onto a base ceramic surface of the ceramic support, as claimed. The ultrafine metal particles of the Komatsu *et al.* patent are not held in pores of ceramic material, as claimed. As mentioned above, figure 1 of the Komatsu *et al.* patent shows that the ultrafine particles are simply attached to a larger particle and are not loaded into pores. Further, the Komatsu *et al.* patent fails to disclose or suggest pores having a width of 100nm or less, as recited in claim 4, from which claims 2, 12 and 13 depend. Therefore, the Komatsu *et al.* patent cannot render claims 2, 12, and 13 obvious, and the applicants respectfully request that this rejection be withdrawn.

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Claims 1-7 and 12, 13, 15 and 19 were rejected under 35 USC 103(a) as being unpatentable over Japanese publication JP-A-62-4441 (the Japanese publication). Claim 1 has been canceled and will not be discussed. As for claims 2-7, 12, 13, 15 and 19 the applicants respectfully request withdrawal of this rejection for the following reasons.

Although the office action asserts that the Japanese publication teaches a ceramic support for catalyst compositions with fine cracks of 100nm or less, replacement of elements, oxygen and lattice defects and fine pores, the Japanese reference fails to disclose or suggest these features. If this rejection is repeated, the applicants request that the location of this disclosure be specifically pointed out. The Japanese publication relates to a method for preparing a cordierite honeycomb catalytic body wherein the cordierite honeycomb structure is treated with acid so as to increase the surface area thereof and then is heat-treated at 600 to 1000°C. A catalytic component is deposited after the heat-treatment. Therefore, the Japanese publication fails to render claims 2-7, 12, 13, 15 and 19 obvious.

Double Patenting Rejections

Claims 1-7, 12, 13, 15, and 19 were provisionally rejected under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of co-pending application 09/961,203 to Nakanishi *et al.* Claim 1 has been canceled and will not be discussed. As for claims 2-7, 12, 13, 15 and 19 the applicants respectfully request withdrawal of this rejection for the following reasons.

The claims of application 09/961,203 require a ceramic with metal elements having NO_x absorbent capacity. No similar limitation appears in the claims of the present application. The claims of the present application call for catalyst particles of a particular size, and there is no similar limitation in the claims of application 09/961,203. Furthermore, the claims of the present

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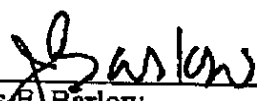
application require that at least part of the catalyst component is loaded in pores of the ceramic. No similar feature is found in the claims of application 09/961,203. Additionally, the claims of the present application limit the width of the pores to 100nm or less. This feature does not appear nor is it suggested by the claims of application 09/961,203. Thus, the provisional double patenting rejection should be withdrawn.

Claim 20 is new and recites that the pores of claim 4 are microcracks. Claim 20 depends on claim 4 and is considered to be patentable for the reasons given above for the patentability of claim 4.

In view of the forgoing, the applicants respectfully submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

Please charge any unforeseen fees that may be due to Deposit Account No. 50-1147.

Respectfully submitted,


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